SUMMARY

[005] In an aspect, embodiments of the present disclosure relate to a pavement marking comprising a binder and a mixture of optical components at least partially embedded on the surface of the binder, the optical components comprising: bonded core retroreflective elements comprising microcrystalline particles bonded to a central core, glass microspheres wherein a first group thereof is of a first size gradation, and a second group thereof is of a second, smaller size gradation and having a higher refractive index than the first group of glass microspheres.

[006] Advantageously, a pavement marking as described herein comprises glass microspheres with tiered sizing. Different populations of glass microspheres each having a selected size range enables the glass microspheres to be progressively exposed to the physical impact of traffic. The smaller sized glass microspheres are shielded from mechanical damage until the larger sized glass microspheres are worn out.

[007] In addition, the smaller sized glass microspheres are selected to have a higher refractive index than the larger sized glass microspheres. This enables the second group of glass beads to help maintain retroreflective performance of the pavement marking after the larger first group of glass microspheres are worn out or damaged.

[008] In another aspect, there is provided a method of forming a pavement marking, comprising: applying a liquid pavement marking composition comprising a curable binder onto a pavement surface, dropping a mixture of optical components onto the liquid pavement marking composition, the optical components comprising: bonded core retroreflective elements comprising microcrystalline particles bonded to a central core, glass microspheres wherein a first group thereof is of a first size gradation, and a second group thereof is of a second, smaller size gradation and having a higher refractive index than the first group of glass microspheres; and allowing the liquid pavement marking composition to cure.